DOCUMENT RESUME

ED 344 414 EC 301 143

AUTHOR Swassing, Raymond H.,; Fichter, George R.
TITLE Residential, Regional, and Specialized Schools.
PUB DATE Mar 92
NOTE 6p.; In: Challenges in Gifted Education: Developing Potential and Investing in Knowledge for the 21st Century; see EC 301 131.
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Gifted; Mathematics; Outcomes of Education; *Regional Schools; *Residential Schools; Science Education; Secondary Education; *Special Schools; State Programs; Summer Programs; *Talent

ABSTRACT

This chapter discusses delivery of special educational services in science and mathematics to gifted and talented students through residential, regional, and specialized schools. Examples are given of all of these types such as the first residential school, the North Carolina School of Science and Mathematics, regional "Governor's Schools," and 29 specialized secondary schools. Outcomes and benefits of these schools are identified including provision of inservice training and assistance to other schools in the state, high achievement by program participants, and better access to a variety of funding sources such as businesses and research foundations. Specialized summer programs in Ohio are described and factors in decision making about establishing residential, regional, and specialized schools are noted. (10 references) (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Residential, Regional, and Specialized Schools

Raymond H. Swassing — *Associate Professor of Gifted Education, The Ohio State University* and

George R. Fichter — *Former Consultant, Programs for Gifted and Talented, Ohio Department of Education*

ED344414

Introduction

> *If we do what we know and feel is right, it is bound to happen that among our graduates there will be those few who significantly influence life on our planet. Our philosophy is to treat our charges as if each one is capable of this extraordinary achievement* (Rigsby, 1988, p. 5).

This philosophy of the Illinois Mathematics and Science Academy (IMSA) is entirely consistent with the fourth of the six educational goals President George Bush, in collaboration with the National Governors' Association, outlined in his State of the Union message for 1990: By the year 2000, "American students must rank first in the world in achievement in mathematics and science" (Halprin, 1991, p. 207).

Residential, regional, and specialized schools can serve as the beacon for excellence in science and mathematics education for every state in the nation. Such schools offer exceptional opportunities for students, and they also offer unusually stimulating laboratories for training teachers, administrators, counselors, and curriculum consultants. The settings offer applied experiences in integrating content, instruction, and learner responses in the arts, the sciences, and mathematics at all levels of the educational continuum.

Residential Schools

The residential school concept is not new. In colonial times, students wishing a secondary education most often had to leave home and reside with friends or relatives or live on the campus of the school (Good, 1964). Nor is the residential school concept new to gifted education. There are at least two types of public-supported residential schools, the academic year schools and summer programs.

Three states — Illinois, Louisiana, and North Carolina — reported having year-long residential schools in the arts, the sciences, and mathematics (Hamant, 1988). The first of these schools was the North Carolina School of Science and Mathematics (NCSSM). This school, which opened in 1980, has served as the model for many of the other statewide schools (Rigsby, 1988).

The schools offer some very special and unique opportunities for the student body. They "create 24-hour-a-day living and learning environments. Students have access to labs, computers, classrooms, libraries, and teachers many hours beyond the usual school day" (Rigsby, 1988, p. 1). The students share formal and informal learning opportunities through association with individuals of similar abilities. An important part of their experiences includes living and socializing with others who share their abilities and concerns. Careful attention must be given to the social and maturational age of the students. Because the students are younger than average college students, the use of specially prepared counselors and residential staff is mandatory.

EC 301143

BEST COPY AVAILABLE

Regional Schools

A common regional school format is the "Governor's School" program (Stewart, 1988). Students are selected to attend a program — often on a college or university campus — for a period of time, usually from one to six weeks in length. The topics are varied. The arts and sciences are among the most frequent areas of study, but creative writing, music, visual arts, and dance are also found among the offerings (Swassing & Fichter, 1991). Summer residential opportunities have been offered to the gifted under the concept of "Governor's Schools" since 1963. Twenty-eight states offered summer residential options in 1989 (Swassing & Fichter, 1991).

Specialized Secondary Schools

The National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology (NCSSSMST), established in 1988, is an organization of schools that specializes in mathematics and science. The membership, which includes both residential and regional day schools, has 29 institutional members in 15 states. While a majority of the schools were founded after 1975, the Bronx High School was founded in 1938 (NCSSSMST, 1991).

Specialized schools offer unique opportunities for students at the local level. They may live at home and attend a school where their special needs are addressed. In most instances, the tuition is born by the school district or offering agency. This makes it possible for students "at risk" economically and socially to gain the kind of education that is commensurate with their abilities.

Outcomes and Benefits

The anticipated outcomes of these programs are similar to the goals of the North Carolina School of Science and Mathematics, which are "to encourage more students to pursue scientific careers, gather some of the brightest students in the state, give them exceptional facilities and equipment, and hire a talented faculty to teach and encourage them" (Rigsby, 1988, p. 1). The Illinois Mathematics and Sciences Academy lists clearly stated student learner outcomes:

- Demonstrate an appreciation of aesthetics, based upon observation and perceptions
- Demonstrate the joy and excitement of life-long learning
- Formulate questions and seek answers through the observation and interpretation of phenomena
- Communicate effectively through the written and spoken word
- Solve problems and think critically in all areas of learning by analyzing, evaluating, and integrating data
- Think creatively and innovatively
- Demonstrate the use of intuition and imagination in the generation and solution of problems
- Demonstrate research and investigative skills
- Demonstrate the academic and technical knowledge needed to fulfill civic responsibility, improve the students' own health and life, and cope with an increasingly technologically complex world
- Judge the value and relevance of information (data) in presenting conclusions
- Demonstrate a core base of knowledge and skills in all areas of learning
- Demonstrate a healthy and positive self-concept
- Demonstrate a sense of social awareness and responsibility
- Make decisions within a moral and ethical context (Undercoiler, 1988).

What do the states get in return for spending such significant resources on relatively few students? Most schools are committed to serving as a resource for other schools in their state and as centers of educational innovation. For example, the Louisiana schools implemented a pilot telecommunications project to share their resources. Advanced course work in differential calculus was made available to selected public schools in the state, and teachers were invited to attend workshops held in conjunction with some of the programs. In North Carolina, more than 5,000 teachers have attended summer workshops at the state's School of Science and Mathematics.

The students' achievements also testify to the wisdom of such an investment of resources. For each of the last four years, the North Carolina School of Science and Mathematics has had more National Merit Scholarship semifinalists than any other high school in the nation. In addition, millions of dollars of scholarships have been awarded to graduates of state residential schools to attend some of the finest colleges and universities. It is evident that the schools are successful when one notes that three additional states — South Carolina, Mississippi, and Texas — opened residential schools in 1988.

Further evidence of success is clear in North Carolina. A survey of 1,444 alumni yielded 900 responses. Ninety-nine percent of the alumni reported attending four-year colleges, a figure twice the North Carolina average of 39%. Sixty-five percent of these alumni are still in college. It is also noteworthy that 74% of all male alumni, 61% of female alumnae, and 70% of Blacks, Hispanics, and Native Americans reported majoring in science, mathematics, and technology. These data are remarkable when compared to national data for the top 10% of scorers on the Scholastic Aptitude Test, which show that 40% of males, 26% of females, and 29% of Blacks, Hispanics, and Native Americans reported majoring in science, mathematics, and technology (Haagen, 1991).

Skeptics often doubt that graduates of residential schools will stay in the state. They voice concern that few students would use the education paid for by the state's taxpayers to benefit that state. The survey clearly silenced the skeptics with its report that two out of three graduates of the North Carolina School of Science and Mathematics chose to attend a college or university in North Carolina. It is also evident that the program is paying off for the state when more than half of the respondents reported that they are employed full-time in North Carolina.

Regional, residential, and specialized schools have special opportunities to search out and apply for funds from scientific and technologically oriented funding sources, including businesses and research foundations. Funding, however, is not the only positive outcome of linking with business and industry. These same agencies offer outstanding opportunities for mentorships, special lectureships, and tutorial experiences. When paired with learners, the professionals offer outstanding role models; they help the students learn the affective as well as the intellectual aspects of their career choices. Role modeling is particularly important if more young women are to be brought into the scientific community. Additionally, this personal involvement can only strengthen business and industry's partnership with education.

The Future

Other states that do not have residential schools at this time are moving in this direction. Several states have recently passed enabling legislation or are studying the concept. Ohio, for example, has operated Ohio's Martin W. Essex School for the Gifted since 1976 (Swassing & Fichter, 1991). The Essex School is a one-week summer program for 60 students selected from the state's high schools. The participants are about to enter their senior year in high school. The theme of the program, "Investing In Futures," focuses on the possibilities of matching the students' abilities and talents with the challenges and opportunities of the future.

Since 1986, Ohio has operated the Summer Institute program on 16 college and university campuses across the state. This program offers up to three weeks of specialized opportunities for up to 250 students in each of the institutes. In looking toward the 21st Century, Ohio has included convening a planning commission to develop recommendations for establishing a residential school as part of its strategic plan for the 1990s (Ohio Department of Education, 1991).

Many of the schools are funded by the state or other means and are free to the students. Selection to such schools means that the students are highly capable of benefiting from the curriculum. It is anticipated that the graduates will continue their education and enter a career in the sciences and/or mathematics. The Illinois Mathematics and Science Academy philosophy, quoted above, clearly expressed the attention to excellence and the resultant social value of residential and specialized schools.

There are many concerns about establishing residential, regional, and specialized schools. Hamant (1988) identified issues that are critical in the planning process. Policy makers need to establish a high-level planning group that includes researchers, government leaders, school board members, education personnel, and advocacy groups. Decision makers must assure school districts that they will not lose money if they participate in the program, that the effects of removing the top students from the schools will not have an adverse effect on attendance and on overall school achievement records, and that the aura of elitism will be vigorously addressed.

Specialized schools are ahead of the curve relative to the education reform movement in the nation. For example, they are leading in the concept of site-based management. They make local decisions on who will be educated, what the course work will be, and what is the broad spectrum of the curriculum. The faculty members are locally selected, highly trained, and recognized for their competence.

Accountability, typically a critical educational shortcoming, is addressed in specialized schools by providing a superior educational program organized around the special learning needs of gifted students. This is one of the major factors influencing educational achievement. Other factors — peer culture, family practices, and cultural values — are also addressed, though not with as much emphasis.

Research indicates that what students value most highly in residential and specialized schools is the enthusiasm of their peers and the mutual excitement of working with others who are similarly inclined to capitalize on their creative instincts. Students enrolled in residential and special schools for high achievers all agree that they have a greater understanding of what they are doing and why they are doing it. This is education at its best.

REFERENCES

Good, H. G. (1964). *A history of American education.* New York: The Macmillan Company.

Haagen, L. (1991, June). Fulfilling the mission. *North Carolina Association for the Gifted Newsletter, 14.*

Halprin, A. S. (1991). Transition: Old wine in new bottles. *Exceptional Children, 58*(3), 202-211.

Hamant, N. (1988). *Regional schools for gifted children.* Columbus, OH: Ohio Department of Education (duplicated).

National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology. (1991). *Shaping leadership for the 21st Century.* Silver Springs, MD: National Consortium for Specialized Secondary Schools of Mathematics, Science and Technology.

Ohio Department of Education. (1991). *Interacting for quality learning: A gifted education strategic plan for the 1990's.* Columbus, OH: Ohio Department of Education.

Rigsby, C. (1988). State residential high schools. *Insights, 3,* 4-5.

Stewart, E. (1988). Governor's schools build for tomorrow. *Insights, 11,* 107-114.

Swassing, R. H., & Fichter, G. R. (1991). University and community-based programs for the gifted adolescent. In M. Bireley & J. Genshaft (Eds.), *Understanding the gifted adolescent: Educational, developmental, and multicultural issues* (pp. 176-185). New York: Teachers College Press.

Undercoiler, J. (1988, September). Max is doing it again. *Articulars, 4.*